INDEX

Absorption and retention of vitamin A in young children, 265.

—, of vitamin A, effect of use of mineral oil upon, 345.

Adrenalin, effect of upon glucose utilization, 204.

Age, in the determination of renal weight, 375.

Alanine, transformation of to pyruvic acid, 527.

Anemia, hemorrhagic, blood studies in, 453.

—, hemorrhagic, effects of radiant energy on, 465.

Apparatus, closed circuit, for metabolic rate and respiratory quotient determinations in rats, 507.

Ascham, Leah, The influence of bulk in the diet upon fecal calcium and phosphorus, 411.

Ashes of rats reared on different diets, 56.

Austin, Elsie M. (See Clough, H. D. and Carman, J. S.), 1.

Auto-oxidation of fats with reference to their destructive effect on vitamin E, 421.

Basal metabolism, influence of high and low protein diet on, in normal women, 79.

— —, recent advances in the study of, 217, 331.

Bean seed and string beans, mineral, nitrogen and fat content of, 479.

Beef muscle in nutrition, preliminary report, 303.

Benedict, Francis G., A multiple-chamber respiration apparatus for rats and other small animals, 161.

— — (see Horst, Kathryn, and Mendel, Lafayette B.), 177.

Biological assay of food materials for vitamin A as influenced by yeast from various sources, 491.

Bischoff, Fritz, and M. Louisa Long, Studies in carbohydrate metabolism following guanidine deglycogenation, 201.

Bladder, urinary, of monkeys on diet deficient in vitamin A, 133.

Blood chemistry, influence of high and low protein diet on, in normal women, 79.

—, studies in hemorrhagic anemia, 453.

Bloomfield, Emily M. (see Rose, Mary Swartz, Vahlteich, Ella McC. and Robb, Elda), 229.

Calcium, body, effect upon of long continued parathyroid administration in rats, 157.

—, content of sixty-day old rats, 158.

—, fecal, influence of bulk in the diet, upon, 411.

Calories, man value of, 485, *et seq.*

Carbohydrate metabolism following guanidine deglycogenation, 201.

—, the utilization of by totally depancreatized dogs receiving no insulin, 99.

Caries, dental, 439.

Carman, J. S. (see Clough, H. D. and Austin, Elsie), 1.

Carr, R. H. (see Gerber, L.), 245.

Casein, diets high in, glycogen formation of rats on, 297.

Cathcart, E. P. and A. M. T. Murray, The validity of family coefficients, 483.

Cereal breakfast foods, nutritive value of, 1, 17.

—, proteins, biological value of, 17.

Childhood, iron requirement in, 229.

Children, metabolism of, 337.

—, study of the absorption and retention of vitamin A, in, 265.

Clayton, Mary M., The comparative value of different food proteins for reproduction and lactation in the rat. II. Milk, egg and meats, 23.

Clough, H. D., J. S. Carman and Elsie M. Austin, The nutritive value of cereal breakfast foods. IV. The response of the human stomach, 1.

Coefficients, family, validity of 483.

Comparative value, of different food proteins for reproduction and lactation in the rat. II. Milk, egg and meats, 23.

Concepcion, Isabelo (see Ocampo, Mariano and Cordero, Narciso), 237.

Cordero, Narciso (see Ocampo, Mariano and Concepcion, Isabelo), 237.

Cummings, Marian J. and H. A. Mattill, The auto-oxidation of fats with reference to their destructive effect on vitamin E, 421.

Day, Paul L., The effect of long continued parathyroid administration upon the body calcium and phosphorus of albino rats, 157.

Deficiencies of synthetic diets in chick nutrition, 39.
Dental diseases, rôle of diet in cause, prevention and cure of, 433.
Determination of the surface area of the white rat, 289.
Dextrin, metabolic rate and respiratory quotient of rats following ingestion of, 503.
Diack, Samuel L., The determination of the surface area of the white rat, 289.
Diet, influence of bulk in, upon fecal calcium and phosphorus, 411.
—, rôle of, in dental diseases, 433.
—, withdrawal of vitamin A from, in the monkey, 121.
Diets, containing approximately 87 per cent of the total caloric value in the form of sucrose, lard and casein, 297.
—, effects of high sugar, on growth and structure of the rat, 61.
—, synthetic, deficiencies of in chick nutrition, 39.
Disease, basal metabolism in, 340.
Dogs, blood studies in hemorrhagic anemia of, 453.
—, Ca and P metabolism in, 418.
—, depancreatized, utilization of carbohydrate by those receiving no insulin, 99.
DuBois, E. F., Recent advances in the study of basal metabolism, Part I, 217.
—, Part II, 331.
Dutcher, R. Adams (see Honeywell, Hannah E. and Ely, Jacob O.), 491.

EDITORIAL review, Recent advances in the study of basal metabolism, Part I, 217.
—,——, Part II, 331.
—,—, The rôle of diet in the cause, prevention and cure of dental diseases, 433.
—,—, The specific dynamic action, 519.
Effect of the use of mineral oil upon the absorption of vitamin A, 345.
Effects of radiant energy on hemorrhagic anemia, 465.
Egg protein, obtained under restricted diets, 245.
— —, value of for reproduction and lactation, 23.
Ely, Jacob O. (see Honeywell, Hannah E. and Dutcher, R. Adams), 491.
Endocrin products, basal metabolism and, 340.
Estrus cycles of rats fed on high sugar diets, 66.
Evans, Herbert M. and Samuel Lepkovsky, On the preparation of a concentrated source of the heat-labile vitamin B, free from contamination with the heat-stable factor G, 353.
Eye conditions of monkeys on diet deficient in vitamin A, 130.

FACTORS which determine renal weight. VII. Protein intake and age. Second paper, 375.
Family coefficients, validity of, 483.
Fasting, metabolic rate and respiratory quotient of rats during, 503.
—, prolonged, metabolism of albino rat during, 177.
Fat content of beans, 479.
—, conversion of, into carbohydrate, 100.
Fats, auto-oxidation of, 421.
Filipinos, basal metabolism of, 237.
Food consumption by different members of family, 484.
—, proteins, comparative value of for reproduction and lactation in the rat, 23.
Further experimental differentiation of vitamins B and G, 395.

GERBER, L. and R. H. Carr, A chemical and immunological study of egg protein obtained under restricted diets, 245.
Gluconeogenesis from fat, 100.
Glucose tolerance of rabbits, 209.
Glycogen formation in rats. II. Diets containing approximately 87 per cent of the total caloric value in the form of sucrose, lard and casein, respectively, 297.
—, liver, of rabbits treated with guanidine compounds, 206.
—, muscle, of rabbits, 207.
Greisheimer, Esther M., and Olga H. Johnson, Glycogen formation in rats. II. Diets containing approximately 87 per cent of the total caloric value in the form of sucrose, lard and casein, respectively, 297.
Growth of monkeys on diet deficient in vitamin A, 126.
—, of Xerophthalmic rats on extracts of urine of children, 269.

——————, on fecal extracts of pre-school children, 272.
Guanidine deglycogenation, studies of carbohydrate metabolism following, 201.
Guinea pigs, sensitization of, to egg proteins, 254.

HANKE, Milton Theo., The role of diet in the cause, prevention and cure of dental diseases, 433.
Hartley, J. G. (see Quinn, E. J. and Whalen, F. B.), 257.
Hawks, Jean E. (see Wang, Chi Che; Huddlestun, Bernice; Wood, Agnes A; and Smith, Edith A.), 79.
Heat production of albino rat during fasting, 196.
——, of various animals referred to surface area, 295.
Hemoglobin, concentration of, in blood of young albino rats, 328.
—, formation, 325.
Hogan, Albert G., and Charles L. Shrewsbury, Deficiencies of synthetic diets in chick nutrition, 39.
Honeywell, Hannah E., R. Adams Dutcher and Jacob O. Ely, Vitamin Studies XVIII. The biological assay of food materials for vitamin A as influenced by yeast from various sources, 491.
Horst, Kathryn, Lafayette B. Mendel and Francis G. Benedict, The metabolism of the albino rat during prolonged fasting at two different environmental temperatures, 177.
Huddlestun, Bernice (see Wang, Chi Che; Hawks, Jean E.; Wood, Agnes A. and Smith, Edith A.), 79.
Hull, F. E. (see McHargue, J. S. and Roy, W. R.), 49.

INFLUENCE of bulk in the diet upon fecal calcium and phosphorus, 411.
—, of high and low protein diet on the basal metabolism and the chemistry of blood and urine in normal women, 79.
Insulin, effect of upon glucose administration, 203.
—, utilization of carbohydrate by totally depancreatized dogs receiving none, 99.
Iron, average daily intake of, by children, 232
————, output of, by children, 233.
—, requirement in early childhood, 229.
Irwin, Margaret H. (see Nelson, P. Mabel and Peet, Louise J.), 303.

JACKSON, C. M., The effects of high sugar diets on the growth and structure of the rat, 61.
Johnson, Olga H. (see Greisheimer, Esther M.), 297.

KERATINIZATION of epithelial structures of monkeys on diet deficient in vitamin A, 136.

LACTATION, comparative value of different food proteins for, 23.
—, some dietary factors influencing, 313.
Lard, diets high in, glycogen formation in rats on, 297.
Laurens, Henry and H. S. Mayerson, The effects of radiant energy on hemorrhagic anemia, 465.
—,—, (see Mayerson, H. S.), 453.
Lepkovsky, Samuel (see Evans, Herbert M.), 353.
Light and temperature control in metabolism room for study of rats, 499.
Liver, nutritional potency of, 49.
—, photographic section of, from rat fed on high sugar diet, 72.
—, weights and glycogen content of rats, 299.
Long, M. Louisa, (see Bischoff, Fritz), 201.
Lusk, Graham, Editorial Review, The specific dynamic action, 519.

MATTILL, H. A. (see Cummings, Marian J.), 421.
——, The nutritive value of the cereal breakfast foods. V. The biological value of some cereal proteins as determined on rats, 17.
MacKay, Eaton M. and Lois Lockard MacKay, Factors which determine renal weight, VII. Protein intake and age. Second paper, 375.
MacKay, Lois Lockard and Eaton M. MacKay, Factors which determine renal weight. VIII. Protein intake and sex, 387.
—,——, (see MacKay, Eaton M.), 375.
Mayerson, H. S. and Henry Laurens, Blood studies in hemorrhagic anemia, 453.

—, —, (see Laurens, Henry), 465.
McHargue, J. S. and W. R. Roy, The mineral, nitrogen and fat content of some varieties of mature bean seed and of string beans, 479.
—, —, W. R. Roy and F. E. Hull, The nutritional potency of fresh, cooked, dry and alcohol-extracted liver, 49.
Meat in Nutrition, I. Preliminary report on beef muscle, 303.
— — —, II. Some dietary factors influencing lactation, 313.
— — —, III. Hemoglobin formation, 325.
Meats (liver, kidney and beef round) value of for reproduction and lactation, 23.
Mendel, Lafayette B. (see Horst, Kathryn and Benedict, Francis G.), 177.
Mental states, basal metabolism in, 339.
Metabolic rate and respiratory quotients of rats following the ingestion of dextrin and during fasting, 503.
— —, average hourly, of rats, 515.
Metabolism, basal, endocrin products and, 340.
—, —, influence of high and low protein diet on, in normal women, 79.
—, —, in mental states, 339.
—, —, of Filipinos, 237.
—, —, of Orientals, 243.
—, —, of women, 221.
—, —, racial and climatic, 222.
—, Ca and P, in dogs, 418.
—, carbohydrate, following guanidine deglycogenation, 201.
—, in disease, 340.
—, nitrogen, of women on high and low protein diets, 89 *et seq.*
—, of children, 337.
—, of the albino rat during prolonged fasting at two different environmental temperatures, 177.
—, room for the study of rats under controlled conditons of light and temperature, 499.
Milk destruction of vitamins of, during pasteurization, 141.
—, proteins, value of for reproduction and lactation, 23.
Miller, Edgar G. (see Tilden, Evelyn B.), 121.
Mineral, nitrogen and fat content of some varieties of mature bean seed and of string beans, 479.
—, oil, effect of use of upon absorption of vitamin A, 345.
Monkey, response of, to withdrawal of vitamin A from the diet, 121.
Multiple-chamber respiration apparatus for rats and other small animals, 161.
Murray, A. M. T. (see Cathcart, E. P.), 483.

NELSON, P. Mabel, Margaret H. Irwin and Louise J. Peet, Meat in nutrition, I. Preliminary report on beef muscle, 303.
—, —, (see Peet, Louise J. and Smith, Erma A.), 313, 325.
Nickel dissolved from the container during pasteurization, does it catalyze destruction of vitamins in milk, 141.
Nitrogen content of beans, 479.
—, distribution of egg proteins, 249.
Normal standards for basal metabolism, 219.
Nutrition, chick, deficiencies of synthetic diets in, 39.
—, meat in, 303, 313, 325.
Nutritional potency of fresh, cooked, dry and alcohol-extracted liver, 49.
Nutritive value, of cereal breakast foods. IV. The response of the human stomach, 1.
—, V. The biological value of some cereal proteins as determined on rats, 17.

OBESITY, basal metabolism in, 225.
Ocampo, Mariano, Narciso, Cordero and Isabelo, Concepcion. The basal metabolism of the Filipinos, 237.
Orientals, basal metabolism of, 243.
Oxygen consumption of albino rat during fasting, 194.

PARATHYROID administration, effect of on body calcium and phosphorus of albino rats, 157.
Pasteurization of milk, nickel dissolved from the container, during, 141.
Peet, Louise J., Erma A. Smith and P. Mabel Nelson, Meat in Nutrition, III. Hemoglobin formation, 325.
—, —, P. Mabel Nelson and Erma A. Smith, Meat in Nutrition II. Some dietary factors influencing lactation, 313.
—, —, (see Nelson P. Mabel, and Irwin, Margaret H.), 303.
Phosphorus, body, effect upon of long con-

tinued parathyroid administration in rats, 157.
—, content of sixty-day old rats, 158.
—, fecal, influence of bulk in the diet, upon, 411.
Pigeons, egg weights and egg production of, 247.
Pratt, Avery D., Does the nickel dissolved from the container during pasteurization catalyze the destruction of the vitamins of milk, 141.
Preparation of a concentrated source of the heat-labile vitamin B, free from contamination with the heat-stable factor G, 353.
Protein diet, influence of high and low, on basal metabolism and chemistry of blood and urine in normal women, 79.
—, egg, obtained under restricted diets, 245.
—, intake in the determination of renal weight, 375, 387.
Proteins of milk egg and meat, value of for reproduction and lactation, 23.
—, raw, of egg, beef round, liver and kidney, value of for reproduction and lactation, 35.
Pyruvic acid, transformation of alanine to, 527.

QUINN, E. J., F. B. Whalen and J. G. Hartley, The Vitamin B and G contents of certain yeast samples, 257.

RADIANT energy, effects of on hemorrhagic anemia, 465.
Rat, albino, metabolism of during prolonged fasting, 177.
—, growth and structure of, as affected by diets high in sugar, 61.
—, white, determination of surface area in, 289.
Rats, albino, effect of parathyroid upon body Ca and P of, 157.
—, —, hemoglobin concentration in blood of, 328.
—, ashes of, reared on different diets, 56.
—, glycogen formation in, 297.
—, measurements of, fed on high sugar diets, 68.
—, metabolic rate and respiratory quotient of following ingestion of dextrin and during fasting, 503.
—, metabolism room for the study of, 499.
—, multiple chamber respiration apparatus for, 161.
—, sensitization of, to egg proteins, 250.
—, vitamin B and G deficiencies in, 400.
—, xerophthalmic, growth of, on extracts of urine of children, 269.
—, —, —, on fecal extracts of children, 272.
Renal weight, factors which determine, 375, 387.
Reproduction, comparative value of different food proteins for, 23.
—, in rats fed on high sugar diets, 66.
Respiration apparatus, multiple chamber, for rats and other small animals, 161.
Respiratory quotient and metabolic rate of rats following ingestion of dextrin and during fasting, 503.
— —, of fasting rat, 178.
—, quotients, hourly averages of in rats, 515.
Response of rats to prolonged fasting, 199.
—, of the monkey (Macacus Rhesus) to withdrawal of vitamin A from the diet, 121.
Robb, Elda,(see Rose, Mary Swartz, Vahlteich, Ella McC. and Bloomfield, Emily M.), 229.
Rôle, of diet in the cause, prevention and cure of dental diseases, 433.
Rose, Mary Swartz, Ella McC. Vahlteich, Elda Robb and Emily M. Bloomfield, Iron requirements in early childhood, 229.
Rowntree, Jennie I., A study of the absorption and retention of vitamin A in young children, 265.
—, —, The effect of the use of mineral oil upon the absorption of vitamin A, 345.
Roy, W. R. (see McHargue, J. S.), 479.
—, (see McHargue, J. S. and Hull, F. E.), 49.

SANDELS, M. R. (see Sherman, H. C.), 395.
Scurvy in relation to dental disease, 441.
Sex, protein intake and, in the determination of renal weight, 387.
Sherman, H. C. and M. R. Sandels, Further experimental differentiation of vitamins B and G, 395.
Shrewsbury, Charles L. (see Hogan, Albert), 39.
Smith, Erma A. (see Peet, Louise J. and Nelson, P. Mabel), 313, 325.
Smith, Edith A. (see Wang, Chi Che; Hawkes, Jean E.; and Wood, Agnes A.), 79.
Soskin, Samuel, The utilization of carbohy-

drate by totally depancreatized dogs receiving no insulin, 99.
Specific dynamic action, 519.
Stomach, human, evacuation rates of, 12.
Study of the absorption and retention of vitamin A in young children, 265.
Sucrose, diets high in, glycogen formation in rats on, 297.
Sugar, effect of diet high in, on growth and structure of the rat, 61.
Surface area and basal metabolism, 331.
——, determination of, in the white rat, 289.
——, of normal rats, dextrin requirements, 505.

TEETH of rats fed on high sugar diets, 67.
Teeth, pathology of, 438.
—, structure of, 436.
Temperature and light control in metabolism room for the study of rats, 499.
Temperatures, environmental, effect of on metabolism in albino rat, 177.
Tilden, Evelyn B., and Edgar G. Miller, The response of the monkey (Macacus Rhesus) to withdrawal of vitamin A from the diet, 121.

URINE, chemistry of, influence of high and low protein diet on, in normal women, 79.
Utilization, of carbohydrate by totally depancreatized dogs receiving no insulin, 99.

VAHLTEICH, Ella McC. (see Rose, Mary Swartz, Robb, Elda and Bloomfield, Emily M.), 229.
Validity of family coefficients, 483.
Vitamin A, assay of food materials for, 491.
——, content of fecal extracts, 284.
—— of milk, destruction of, during pasteurization, 143.
——, response of monkey to withdrawal of, from the diet, 121.
——, study of the absorption and retention of, in young children, 265.
——, trial of color tests for, 266.
Vitamin B, concentrated source of, free from heat-stable factor G, 353.
—— of milk, destruction of during pasteurization, 148.
——, solubility of, 396.
——, and G contents of certain yeast samples, 257.
—— and G further experimental differentiation of, 395.
Vitamin C deficiency in relation to dental disease, 441 *et seq.*
——, of milk, destruction of, during pasteurization, 150.
Vitamin E, destructive effect of auto-oxidation of fats, upon, 421.
Vitamin G, photographs illustrating deficiencies of, in rats, 403, 405.
——, solubility of, 399.
——, source of vitamin B, free from, 353.
——, (and B) content of certain yeast samples, 257.
—— (and B), further experimental differentiation of, 395.
Vitamins of milk, destruction of by nickel during pasteurization, 141.
Vitamin Studies XVIII. The biological assay of food materials for vitamin A as influenced by yeast from various sources, 491.

WANG Chi Che, Jean E. Hawks, Bernice Huddlestun, Agnes A. Wood and Edith A. Smith, The influence of high and low protein diet on the basal metabolism and the chemistry of blood and urine in normal women, 79.
Wesson, Laurence G., A metabolism room for the study of rats under controlled conditions of light and temperature, 499.
——, The metabolic rate and respiratory quotients of rats following the ingestion of dextrin and during fasting, 503.
Whalen, F. B. (see Quinn, E. J. and Hartley, J. G.), 257.
Wood, Agnes A. (see Wang, Chi Che, Hawks, Jean E. and Smith, Edith A.), 79.

YEAST, amount of necessary for growth in chicks, 41 *et seq.*
—, influence of, on assay of food materials for vitamin A, 491.
—, vitamin B and G content of certain samples, 257.